# FINITE ELEMENTS
## HOME WORK (2)

Calculate the strain energy stored in the overhanging beam given in Figure 1. It is loaded by a distributed load along the span $L$ and a point load $P$ at the free end. Cross-section of the beam is a rectangle. Dimensions and material properties are: $L = 6\text{m}$, $a = 1.5\text{m}$ $b = 200\,\text{mm}$, $h = 800\,\text{mm}$, $E = 200\,\text{GPa}$, $G = 80\,\text{GPa}$ and $k' = 1.2$. Loading is $q_1 = 2\,\text{kN/m}$, $q_2 = 6\,\text{kN/m}$ and $P = 80\,\text{kN}$.

Hand in **March 07, 2018**

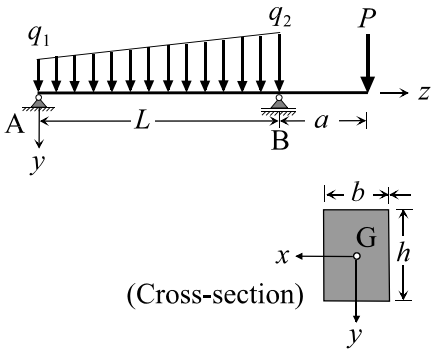


Figure 1